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M. Bud Nelson

Name

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31 August 2000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Barberá-Guillem, Nelson, & Castro  
Attny Docket: B-13-NP

Serial No. 09/436,159 Examiner: A. Chakrabarti

Filed: 09 November 2000 Art Unit 1655

For: Functionalized nanocrystals and their use in labeling for strand synthesis or sequence determination

Assistant Commissioner of Patents  
Washington, D.C. 20231

Sir:

Responsive to the Office Action dated 18 April 2000,  
Paper No. 3, please be advised as follows.

In the Claims

Please rewrite claim 1 in amended form as follows.

1. (Amended) A functionalized nanocrystal-labeled nucleobase comprising a functionalized nanocrystal operably linked to a nucleobase; wherein the functionalized nanocrystal comprises a core and a shell, a capping compound comprising a compound having the formula  $HS(CH_2)_nX$  wherein X is a carboxylate, and a coating comprising diaminocarboxylic acid which is operably linked to the capping compound; and wherein the diaminocarboxylic acid of the functionalized nanocrystal comprises one or more reactive functionalities, and the nucleobase comprises one or more reactive functionalities, which are used to operably link the functionalized nanocrystal to the nucleobase.

/ claim 1  
2+3  
OK

Please add new claims 23-28.

23. A functionalized nanocrystal-labeled nucleobase comprising a functionalized nanocrystal operably linked to a nucleobase; wherein the functionalized nanocrystal comprises a core and a